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*SM
6/25/05 AF/IFW*

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.: 09/636,146 Confirmation No.: 6582
Applicant: Mark CHASIN, et al.
Filed: August 10, 2000
Art Unit: 1617
Examiner: Sang-Ming Hui
For: **Novel Hypoxanthine and Thiohypoxanthine**
Attorney Docket No.: 332.1106
Customer No.: 23280

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

February 28, 2005

AMENDMENT

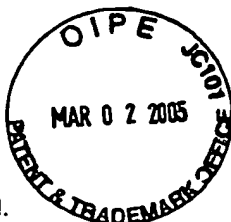
Sir:

In response to the Office Action of November 30, 2004, please reconsider the above-identified patent application based on the following amendments and remarks:

Amendments to the Claims begin on page 2 of this document.

Remarks and Arguments begin on page 6 of this document.

COMMISSIONER FOR PATENTS
P.O. BOX 1450
Alexandria, VA 22313-140



In re application of: CHASIN, et al.
Serial No.: 09/636,146
Filed: August 10, 2000
For: NOVEL HYPOXANTHINE AND THIOHYPOXANTHINE

Sir:

Transmitted herewith is an **Amendment** in the above-identified application.

- ☐ Small entity status under 37 C.F.R. 1.9 and 1.27 has been previously established.
☐ Applicants assert small entity status under 37 C.F.R. 1.9 and 1.27.
☒ No fee for additional claims is required.
☐ A filing fee for additional claims calculated as shown below, is required:

		(Col. 1)	(Col. 2)	SMALL ENTITY		OR	LARGE ENTITY	
FOR:		REMAINING	HIGHEST	RATE	FEE		RATE	FEE
	AFTER		PREVIOUSLY					
	AMENDMENT		PAID FOR					
TOTAL CLAIMS	0 Minus	0 =	0	x \$ 9	\$		x \$ 18	\$
INDEP. CLAIMS	0 Minus	0 =	0	x \$ 42	\$		x \$ 84	\$
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEP. CLAIM				+ \$140	\$		+ \$280	\$

TOTAL: \$ OR TOTAL: \$

- * If the entry in Co. 1 is less than the entry in Col. 2, write "0" in Col. 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, write "20" in this space.
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, write "3" in this space.

- ☐ Also transmitted herewith are:
☐ Petition for extension under 37 C.F.R. 1.136
☐ Other:

- ☐ Check(s) in the amount of \$0.00 is/are attached to cover:
☐ Filing fee for additional claims under 37 C.F.R. 1.16
☐ Petition fee for extension under 37 C.F.R. 1.136
☐ Other:

- ☒ The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 50-0552.

- ☒ Any filing fee under 37 C.F.R. 1.16 for the presentation of additional claims which are not paid by check submitted herewith.
☒ Any patent application processing fees under 37 C.F.R. 1.17.
☒ Any petition fees for extension under 37 C.F.R. 1.136 which are not paid by check submitted herewith, and it is hereby requested that this be a petition for an automatic extension of time under 37 CFR 1.136.


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I hereby certify that this correspondence and/or documents referred to as attached therein and/or fee are being deposited with sufficient postage to the United States Postal Service as "first class mail" in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" on February 28, 2005.
 DAVIDSON, DAVIDSON & KAPPEL, LLC

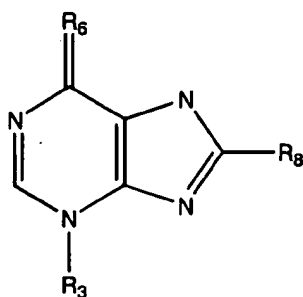
BY: 

I. Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claim 1. (currently amended) A pharmaceutical composition comprising a compound of the formula:



~~in an effective amount to inhibit the PDE IV enzyme upon administration to a human patient,~~
wherein;

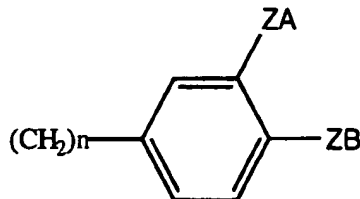
R₆ = S or O

R₃ is benzyl substituted at the 3 position by ZA and the 4 position by ZB ~~selected from the group consisting of C₄ - C₈ linear or branched alkyl; C₂ - C₈ linear or branched alkene; C₂ - C₈ linear or branched alkyne; C₃₋₈ cycloalkyl; Q; and K;~~

R₈ is selected from the group consisting of C₁ - C₈ linear or branched alkyl; C₂ - C₈ linear or branched alkene; C₂ - C₈ linear or branched alkyne; C₃₋₈ cycloalkyl; Q; and K;

wherein

Q has the general formula:



wherein;

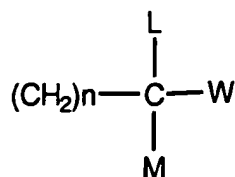
$n = 0$ or 1 ;

$Z =$ a bond, CH_2 , NH , O or S ;

A and B can form a ring by adding $1-3 \text{ CH}_2$ groups when $Z = \text{CH}_2$, NH , O or S ; and

A and B are not in a ring when $Z =$ a bond, wherein A and B are independently selected from the group consisting of hydrogen; halogen; $\text{C}_1 - \text{C}_8$ alkyl; $\text{C}_1 - \text{C}_8$ alkoxy; $\text{C}_3 - \text{C}_8$ cycloalkyl; $\text{C}_3 - \text{C}_8$ cycloalkoxy; hydroxy; phenyl; benzyl; and benzyloxy; wherein said phenyl, benzyl and benzyloxy are optionally substituted with halogen, $\text{C}_1 - \text{C}_8$ alkyl, $\text{C}_1 - \text{C}_8$ alkoxy, $\text{C}_3 - \text{C}_8$ cycloalkyl, $\text{C}_3 - \text{C}_8$ cycloalkoxy and hydroxy;

K has the general formula:



wherein;

$n = 0$ or 1 ;

L and M are independently selected from the group consisting of hydrogen and methyl;

W is selected from the group consisting of Q ; hydroxy; benzyloxy optionally substituted with halogen, $\text{C}_1 - \text{C}_8$ alkyl, $\text{C}_1 - \text{C}_8$ alkoxy, $\text{C}_3 - \text{C}_8$ cycloalkyl, $\text{C}_3 - \text{C}_8$ cycloalkoxy and hydroxy; aryl; heteroaryl; and a heterocyclic ring;

provided that when R_3 is methyl, R_8 is not hydrogen;

and pharmaceutically acceptable salts thereof;

and at least one pharmaceutically acceptable excipient.

Claim 2. (previously presented) The pharmaceutical composition of claim 1 wherein R_3 is benzyl.

Claim 3. (previously presented) The pharmaceutical composition of claim 1 wherein R₃ is benzyl substituted with an alkoxy and a cycloalkoxy group.

Claim 4. (previously presented) The compound of claim 1 wherein R₃ is benzyl substituted with benzyloxy.

Claim 5. (currently amended) The pharmaceutical composition of claim 1, wherein said compound is selected from the group consisting of:

- ~~3,8-diethyl-hypoxanthine;~~
- ~~3,8-diethyl-thiohypoxanthine;~~
- ~~3-ethyl-8-cyclopropyl-hypoxanthine;~~
- ~~3-ethyl-8-cyclopropyl-thiohypoxanthine;~~
- 3-(3-cyclopentyloxy-4-methoxy-benzyl)-8-(1-hydroxy-1-methyl-ethyl)-hypoxanthine;
- 3-(3-cyclopentyloxy-4-methoxy-benzyl)-8-(1-methyl-ethylene)-hypoxanthine;
- 3-(3-cyclopentyloxy-4-methoxy-benzyl)-8-(1-benzyloxy-1-methyl-ethyl)-hypoxanthine;
- 3-(3-cyclopentyloxy-4-methoxy-benzyl)-8-(benzyloxymethyl)-hypoxanthine;
- 3-(3-cyclopentyloxy-4-methoxy-benzyl)-8-(1-methyl-ethyl)-hypoxanthine;
- 3-(3-cyclopentyloxy-4-methoxy-benzyl)-8-(1-(4-methoxybenzyloxy)-1-methyl-ethyl)-hypoxanthine;
- 3-(3-cyclopentyloxy-4-methoxy-benzyl)-8-(1-(4-fluorobenzyloxy)-1-methyl-ethyl)-hypoxanthine;
- 3-(3-benzyloxy-4-methoxy-benzyl)-8-(1-benzyloxy-1-methyl-ethyl)-hypoxanthine;
- 3-(3-4-dimethoxy-benzyl)-8-(1-benzyloxy-1-methyl-ethyl)-hypoxanthine;
- 3-(3-benzyloxy-4-methoxy-benzyl)-8-(1-methyl-ethyl)-hypoxanthine;
- 3-(3-hydroxy-4-methoxy-benzyl)-8-(1-methyl-ethyl)-hypoxanthine;
- 3-(3-4-dimethoxy-benzyl)-8-(1-methyl-ethyl)-hypoxanthine;
- ~~3-(1,3-benzdioxole-5-methyl)-8-(1-methyl-ethyl)-hypoxanthine;~~
- 3-(4-chloro-benzyl)-8-(1-methyl-ethyl)-hypoxanthine;
- 3-(3-chloro-benzyl)-8-(1-methyl-ethyl)-hypoxanthine;

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3-(4-methoxy-benzyl)-8-(1-methyl-ethyl)-hypoxanthine;
3-(3-4-dimethoxy-benzyl)-8-(1-(4-fluorobenzoyloxy)-1-methyl-ethyl)-hypoxanthine;
and pharmaceutically acceptable salts thereof.

Claims 6-15. (cancelled)

Claim 16. (previously presented) The pharmaceutical composition of claim 1, selected from the group consisting of tablets, gelcaps, capsules, caplets, granules, and lozenges.

Claims 17-21. (cancelled)